

Application No. 09/941,151
Amendment and Response dated March 14, 2005
Reply to Non-Final Office Action of November 12, 2005

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-49 (canceled)

50.(currently amended) The method of claim ~~[[49]]~~ 111 wherein:
the ~~person viewing on the computer display~~ is by an orthodontic practitioner; and
the feedback information is from the orthodontic practitioner and includes
information selected from the group consisting essentially of information of changes to the
suggested tooth positions and orientations, and information approving tooth positions and
orientations toward which the teeth of the patient are to be moved by the appliance.

51.(currently amended) The method of claim 50 further comprising:
providing the ~~person viewing the display~~ orthodontic practitioner with a computer
interface and displaying the images thereon to the orthodontic practitioner; and
providing the computer interface with a capability for the entry by the person viewing the
display of the feedback information.

52.(currently amended) The method of claim ~~[[49]]~~ 111 wherein:
the feedback information includes information of changes to the suggested tooth positions
and orientations;
the method further comprises redisplaying images of the teeth in tooth positions and
orientations revised in accordance with the feedback information ~~for inspection by~~
~~the person viewing the display~~.

53.(currently amended) The method of claim ~~[[49]]~~ 111 wherein:
the three-dimensional information is derived at least in part from an impression of the
teeth of the patient from the orthodontic practitioner; and
the displaying of the images of the teeth of the patient is in response to data digitized from
a model of the teeth made from the impression.

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54.(currently amended) The method of claim ~~[[49]]~~ 111 further comprising:
communicating the three-dimensional information to a remote computing facility for the
derivation of the suggested tooth positions and orientations from the three-
dimensional information; and
displaying digital images of the teeth of the patient in the suggested tooth positions and
orientations on the computer display.

55.(currently amended) The method of claim ~~[[49]]~~ 111 further comprising:
communicating the three-dimensional information to a remote computing facility for the
derivation of the suggested tooth positions and orientations from the three-
dimensional information; and
displaying digital images of the teeth of the patient in the suggested tooth positions and
orientations on the computer display;
communicating, to an orthodontic appliance manufacturing facility having equipment
thereat for manufacturing the custom orthodontic appliance, data that includes
three-dimensional information of the shapes of the teeth of the patient and
information regarding tooth positions and orientations toward which the teeth of
the patient are to be moved by orthodontic treatment; and
receiving from the orthodontic appliance manufacturing facility the custom orthodontic
appliance for providing the appliance to the orthodontic practitioner for the
treatment of the patient.

56.(currently amended) The method of claim ~~[[49]]~~ 111 further comprising:
communicating, to a remote orthodontic appliance manufacturing facility having
equipment thereat for manufacturing the custom orthodontic appliance, data that
includes three-dimensional information of the shapes of the teeth of the patient
and information regarding tooth positions and orientations toward which the teeth
of the patient are to be moved by orthodontic treatment; and

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receiving from the remote orthodontic appliance manufacturing facility the custom orthodontic appliance for providing the appliance to the orthodontic practitioner for the treatment of the patient.

57.(currently amended) The method of claim ~~[[49]]~~ 111 wherein:
the feedback information includes information selected from the group consisting essentially of information of changes to the suggested tooth positions and ~~orientations and~~ orientations, and information approving tooth positions and orientations toward which the teeth of the patient are to be moved by the appliance;
the method further comprises:
~~providing the person~~ providing a person viewing the display with a capability for entering feedback information in the form of change data from an orthodontic practitioner into a computer indicating selected changes in the suggested tooth positions and orientations;
displaying on the computer images of the teeth in revised tooth positions and orientations in response to the feedback information.

58.(previously presented) The method of claim 57 further comprising:
establishing a digital communications link between a computer terminal and a digital computer at a remote location;
transferring the three-dimensional information in digital form to the remote location;
deriving with the digital computer at the remote location the suggested tooth positions and orientations;
communicating digital data of the suggested tooth positions and orientations from the remote location to the computer display;
communicating change data from the computer display to the computer at the remote location;

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calculating the revised tooth positions and orientations with the digital computer at the remote location in response to the change data;
communicating digital data of the revised tooth positions and orientations from the remote location to the computer display.

59.(previously amended) The method of claim 58 further comprising:
entering commands accepting tooth positions and orientations at the computer display;
communicating entered commands accepting tooth positions and orientations to the remote location; and
processing data of the accepted revised tooth positions and orientations and of the three-dimensional information and designing of the custom orthodontic appliance with the digital computer at the remote location.

60.(previously presented) The method of claim 59 further comprising:
transmitting data of the designed custom orthodontic appliance from the remote location;
displaying images of the designed custom orthodontic appliance on the computer display in response to the transmitted data;
transmitting appliance modification data to the computer at the remote location and redesigning the appliance with the digital computer at the remote location in response to the transmitted appliance modification data.

61.(currently amended) The method of claim ~~[[49]]~~ 111 wherein:
the custom orthodontic appliance includes positioning jigs having surfaces thereon that conform to the shapes of the teeth of the patient.

62.(currently amended) The method of claim ~~[[49]]~~ 111 wherein:
the custom orthodontic appliance includes positioning jigs having surfaces thereon that conform to the shapes of the teeth of the patient; and
the method further comprises:

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locating the jigs on the patient with said surfaces conforming to the shape of the
teeth,
positioning the appliance on the teeth with the jigs, and
bonding the appliance so positioned to the tooth.

Claims 63-83 (canceled)

84.(previously presented) The method of claim 52 wherein:
the feedback information includes information from an orthodontic practitioner approving
the revised tooth positions and orientations as those toward which the teeth of the
patient are to be moved by the appliance.

Claims 85-110 (canceled)

111.(new) A method of providing a custom orthodontic appliance for repositioning teeth
of a patient comprising:
communicating three-dimensional information of the shapes of the teeth of the patient;
displaying images of the teeth of the patient on a computer display in suggested tooth
positions and orientations that are based on the three-dimensional information;
viewing the displayed images;
communicating feedback information in response to the viewing of the displayed images;
and
providing a custom orthodontic appliance to reposition teeth of the patient based on the
suggested tooth positions and orientations in accordance with the feedback
information.

112.(new) The method of claim 111 wherein:
the feedback information includes information approving tooth positions and orientations
toward which the teeth of the patient are to be moved by the appliance.

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113.(new) The method of claim 112 further comprising:
providing a computer interface having a capability for the entry of the feedback
information.

114.(new) The method of claim 111 wherein:
the feedback information includes information approving a treatment plan to reposition
teeth of the patient with the appliance.

115.(new) The method of claim 114 further comprising:
providing a computer interface having a capability for the entry of the feedback
information.

116.(new) The method of claim 111 wherein:
the feedback information includes information of a change in position or orientation of at
least one tooth from the suggested tooth positions and orientations.

117.(new) The method of claim 116 further comprising:
providing a computer interface having a capability for the entry of the feedback
information.

118.(new) The method of claim 116 further comprising:
redisplaying images of the teeth in tooth positions and orientations in accordance with the
feedback information.

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119.(new) The method of claim 111 wherein:
the communicating of the three-dimensional information includes communicating, from
an orthodontic practitioner, three-dimensional information from the mouth of a
patient of the shapes of the teeth of the patient;
the displaying includes displaying the images for inspection by a person viewing the
display;
the communicating of the feedback information includes communicating, from the person
viewing the display, the feedback information regarding the suggested tooth
positions and orientations toward which the teeth of the patient are to be moved by
orthodontic treatment of the patient; and
the custom orthodontic appliance is configured to urge the teeth of the patient, when
installed thereon, toward tooth positions and orientations and that has been
manufactured based on the suggested tooth positions and orientations in
accordance with the feedback information.